

CLAIMS

1. A method of reproducing a multilayer recording medium including at least three information layers, comprising:

5 converging a laser beam output from a light source on a target information layer, detecting the reflected light from the target information layer mainly to generate an information signal;

detecting a cross talk light from information layers other than the target information layer to generate a cross talk 10 signal; and

removing a signal component corresponding to the cross talk signal from the information signal from the target information layer to generate a reproduction signal indicating information recorded in the target information layer.

15 2. The reproducing method according to claim 1, further comprising adjusting a gain of the cross talk signal based on predetermined information, amplifying the cross talk signal based on the gain, wherein the amplified cross talk signal is used as the 20 signal component corresponding to the cross talk signal.

3. The reproducing method according to claim 2, wherein, when a target information layer is reproduced, the predetermined information indicates a ratio of the cross talk light leaking from 25 the other information layers and is stored in the multilayer recording medium, and

the method further comprises reading the predetermined information from the multilayer recording medium.

30 4. The reproducing method according to claim 3, wherein the

predetermined information includes reflectance information and transmittance information of the other information layers to which a laser beam is irradiated from a surface of the layer opposite to a light source.

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5. The reproducing method according to claim 3, wherein, when the multilayer recording medium includes three information layers, the predetermined information includes reflectance and transmittance regarding two information layers.

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6. The reproducing method according to claim 1, wherein the cross talk signal includes a signal from the second layer from the target layer on the light source side.

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7. A reproducing device of a multilayer recording medium comprising at least three information layers, comprising:

 a light source operable to irradiate a laser beam onto one information layer to read information recorded in the multilayer recording medium;

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 a first detector operable to detect a reflected light from the one information layer mainly to generate an information signal;

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 a second detector operable to detect a reflected light from the other information layers than the one information layer to generate a cross talk signal; and

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 a differentiating unit operable to obtain a difference between the information signal from the first detector and a signal generated corresponding to the cross talk signal from the second detector to generate a reproduction signal indicating information recorded in the one information layer.

8. The reproducing device according to claim 7, further comprising an amplifier operable to adjust a gain of the cross talk signal based on predetermined information to amplify the cross talk signal based on the adjusted gain, wherein

the differentiating unit obtains a difference between the information signal from the first detector and the cross talk signal amplified by the amplifier.

9. The reproducing device according to claim 7, wherein the predetermined information is cross talk information indicating a ratio of cross talk light leaking from the other information layers on the side of the light source while the one information layer is reproduced, the multilayer recording medium includes a management region to store the predetermined information, and the reproducing device further includes a cross talk information detector operable to read the predetermined information from the management region of the multilayer recording medium.

10. The reproducing device according to claim 7, wherein the second detector is provided so as to surround the first detector.

11. A multilayer recording medium comprising at least three information layers and irradiated with a laser beam from a light source to reproduce information, comprising:

a management region to store cross talk information indicating a ratio of a cross talk light leaking from information layers other than a specific information layer on the side of the light source to a reflected light from the specific information layer during reproduction of the specific information layer.

12. The multilayer recording medium according to claim 11, wherein thicknesses of a plurality of middle layers to isolate the plurality of information layers are substantially equal.

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13. The multilayer recording medium according to claim 11, wherein the cross talk information includes reflectance information in the other information layer when a laser beam is applied from a surface opposite to an incident side of the light source.

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14. The information medium according to claim 11, wherein the management region is provided on one information layer and information is not recorded in a region on the other information layer corresponding to the management region.

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15. The information medium according to claim 11, wherein the management region is provided on the information layer which is closest to the light source.